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EXAMINER

WONG, ALLEN C

ART UNIT PAPER NUMBER

2613

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,142

Applicant(s)

YAN, YONG

Examiner

Allen Wong

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/3/04 have been fully read and considered but they are not persuasive.

Regarding lines 17-20 on page 6 of applicant's remarks, applicant states that Chen does not teach a mask generation system that generates one of a plurality of mask types for the video object based on the evaluation of the video object, as recited for claim 1. The examiner respectfully disagrees. In column 4, lines 28-32 citation, Chen discloses the evaluation of the video object to be encoded based on the use of the predetermined criterion data, wherein the predetermined criterion are described to be the shape and texture information. And as for the "mask generation", Chen's col.6, ln.47-52 discloses that masks can be generated for the video object based on the position of the location of the pixel relative to the video object. Further, in col.4, lines 40-49, Chen discloses where macroblocks (MBs) are generated for the mask (ie. Bounding Box) based on their evaluation either each macroblock is inside, outside or bordering the object. Thus, Chen discloses a mask generation system that generates one of a plurality of mask types for the video object based on the evaluation of the video object, and Chen meets the broad limitations of claim 1.

With regards to independent claims 11 and 20 and dependent claims 2-4, 7-10, 12-15, 17-19, 24, and 26-28, these claims are also disclosed by Chen for the same reasons as discussed above for claim 1.

Regarding line 24 on page 7 to line 3 of page 8 of applicant remarks, applicant asserts that there is no suggestion or motivation to combine the teachings, no reasonable expectation of success and the prior art must teach all of the claim limitations. The examiner respectfully disagrees.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Sekiguchi col.2, ln.19-22, it would have been obvious to one of ordinary skill in the art to incorporate Sekiguchi's teaching into Chen's video encoding system, program product, and method for efficiently encoding of image features in an accurate, high quality manner.

In response to applicant's argument that there must be a reasonable expectation of success, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Regarding lines 14-16 on page 8 of applicant's remarks, applicant contends that Sekiguchi does not teach or suggest a system that after a circular object is extracted that a mask type is determined based on the extracted object shape. The examiner respectfully disagrees. Sekiguchi's col.14, ln.54-59 discloses a system where the substantial roundness or circularity of a video object shape can be determined.

Regarding lines 17-19 on page 8 of applicant's remarks about claims 6, 16 and 25, applicant mentions that the combination of Chen and Sekiguchi would not have produced the elements if the present invention and alternatively can be shown not to operate as is claimed. The examiner respectfully disagrees. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Sekiguchi col.2, ln.19-22, it would have been obvious to one of ordinary skill in the art to incorporate Sekiguchi's teaching into Chen's video encoding system, program product, and method for efficiently encoding of image features in an accurate, high quality manner.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2613

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5, 7-15, 17-24 and 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (6,208,693).

Regarding claim 1, Chen discloses a video object encoding system (col.1, ln.18-21 and col.2, ln.44-49), comprising:

an object evaluation system that evaluates a video object using a predetermined criterion (col.4, ln.28-32); and

a mask generation system that generates one of a plurality of mask types for the video object based on the evaluation of the video object (col.6, ln.47-52).

Regarding claim 2, Chen discloses the video object encoding system of claim 1, wherein the plurality of mask types includes a pixel-based mask (col.6, ln.47-52), a bounding box mask (col.7, ln.11-12), and a macroblock-based mask (col.7, ln.23-30).

Regarding claim 3, Chen discloses the video object encoding system of claim 1, wherein the predetermined criterion examines a shape of the video object (col.4, ln.28-32).

Regarding claim 4, Chen discloses the video object encoding system of claim 1, wherein the predetermined criterion examines a texture of the video object (col.4, ln.28-32).

Regarding claim 5, Chen discloses the video object encoding system of claim 1, wherein the predetermined criterion examines motion information regarding the video object (col.4, ln.66-67).

Regarding claim 7, Chen discloses the video object encoding system of claim 3, wherein the predetermined criterion includes whether an area of the video object shape is substantially similar to an area of a generated bounding box (col.7, ln.11-21 and fig.3).

Regarding claim 8, Chen discloses the video object encoding system of claim 7, wherein the predetermined criterion includes whether an area of a macroblock-based shape generated for the video object is substantially similar to the area of the generated bounding box (col.7, ln.11-21 and fig.3).

Regarding claim 9, Chen discloses the video object encoding system of claim 8, wherein the predetermined criterion includes whether the area of a macroblock-based shape is larger than the area of the video object shape (col.7, ln.11-21 and fig.3).

Regarding claim 10, Chen discloses the video object encoding system of claim 1, further comprising an MPEG-4 encoder (col.1, ln.46-48).

Regarding claim 11, Chen discloses a program product stored on a recordable medium, which when executed, encodes video objects (col.1, ln.18-21 and col.2, ln.44-49), the program product comprising:

program code configured to evaluate a video object using a predetermined criterion (col.4, ln.28-32); and

program code configured to generate one of a plurality of mask types for the video object based on the evaluation of the video object (col.6, ln.47-52).

Regarding claim 12, Chen discloses the program product of claim 11, wherein the plurality of mask types includes a pixel-based mask (col.6, ln.47-52), a bounding box mask (col.7, ln.11-12), and a macroblock-based mask (col.7, ln.23-30).

Regarding claim 13, Chen discloses the program product of claim 11, wherein the predetermined criterion examines a shape of the video object (col.4, ln.28-32).

Regarding claim 14, Chen discloses the program product of claim 11, wherein the predetermined criterion examines a texture of the video object (col.4, ln.28-32).

Regarding claim 15, Chen discloses the program product of claim 11, wherein the predetermined criterion examines motion information regarding the video object (col.4, ln.66-67).

Regarding claim 17, Chen discloses the program product of claim 13, wherein the predetermined criterion includes whether an area of the video object shape is substantially similar to an area of a generated bounding box (col.7, ln.11-21 and fig.3).

Regarding claim 18, Chen discloses the program product of claim 17, wherein the predetermined criterion includes whether an area of a macroblock-based shape generated for the video object is substantially similar to the area of the generated bounding box (col.7, ln.11-21 and fig.3).

Regarding claim 19, Chen discloses the program product of claim 18, wherein the predetermined criterion includes whether the area of a macroblock-based shape is larger than the area of the video object shape (col.7, ln.11-21 and fig.3).

Regarding claim 20, Chen discloses a method for encoding video objects in an object based video communication system (col.1, ln.18-21 and col.2, ln.44-49), comprising the steps of:

evaluating a video object using a predetermined criterion (col.4, ln.28-32); and
generating one of a plurality of mask types for the video object based on the evaluation of the video object (col.6, ln.47-52).

Regarding claim 21, Chen discloses the method of claim 20, wherein the plurality of mask types includes a pixel-based mask (col.6, ln.47-52), a bounding box mask (col.7, ln.11-12), and a macroblock-based mask (col.7, ln.23-30).

Regarding claim 22, Chen discloses the method of claim 20, wherein the predetermined criterion examines a shape of the video object (col.4, ln.28-32).

Regarding claim 23, Chen discloses the method of claim 20, wherein the predetermined criterion examines a texture of the video object (col.4, ln.28-32).

Regarding claim 24, Chen discloses the method of claim 20, wherein the predetermined criterion examines motion information regarding the video object (col.4, ln.66-67).

Regarding claim 26, Chen discloses the method of claim 22, wherein the evaluating step includes:

generating a bounding box (col.7, ln.11-12); and

Art Unit: 2613

determining if an area of the object shape is substantially similar to an area of the generated bounding box (col.7, ln.11-21 and fig.3).

Regarding claim 27, Chen discloses the method of claim 26, wherein the evaluating step includes generating a macroblock-based shape (col.7, ln.11-21 and fig.3); and determining whether an area of the macroblock-based shape is substantially similar to the area of the generated bounding box (col.7, ln.11-21 and fig.3).

Regarding claim 28, Chen discloses the method of claim 27, wherein the evaluating step includes determining whether the area of a macroblock-based shape is larger than the area of the object shape (col.7, ln.11-21 and fig.3).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6, 16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (6,208,693) in view of Sekiguchi (6,611,628).

Regarding claims 6, 16 and 25, Chen discloses an object evaluation system, program product and method that evaluate a video object using a predetermined criterion (col.4, ln.28-32; note video object is evaluated based on predetermined criterion such as texture and shape). Chen does not specifically disclose a system, a program product and method wherein the predetermined criterion includes whether the

Art Unit: 2613

video object shape is substantially circular. However, Sekiguchi teaches a system where the substantial roundness or circularity of a video object shape can be determined (col.14, ln.54-59). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate Sekiguchi's teaching into Chen's video encoding system, program product, and method for efficiently encoding of image features in an accurate, high quality manner (Sekiguchi col.2, ln.19-22).

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

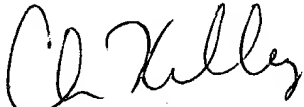
Art Unit: 2613

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Allen Wong
Examiner
Art Unit 2613

AW
9/21/04


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